

Appl. No. 10/624,471

### REMARKS/ARGUMENTS

#### **Status of Claims**

Claims 1-30, 32-36 remain in the application.

Claims 1, 24, 26, 28, 34, 35 and 36 have been amended.

Claims 31 and 37 have been cancelled.

#### **Amendments to Claims**

Claim 1 has been amended to clarify that the approximating step is as follows:

approximating a value for the impact of each identified optical effect on the performance of a signal as a function of each identified base variable

According to the specification, the optical effect is not in fact being approximated but rather the performance impact of the optical effect is approximated. (i.e. the present invention is not concerned with a measurement of dispersion (ps/nm) but rather a performance metric measure (i.e. OSNR, BER, or Q) that affects signal quality). See page 13, line 27 – page 14, line 3.

Claims 24, 26, 28, 34, 35 and 36 have been amended in a similar manner.

#### **35 U.S.C 103 Claim Rejections**

The requirements for establishing a prima facie case of obviousness as set out in the MPEP Section 2143.01 require that the reference or references when combined teach all of the claimed limitations, that there be a reasonable expectation of success in realizing the claimed invention, and that there be a motivation to combine the references.

The Examiner has rejected claims 1-24, 26, 28, 31, 32 and 34-37 under 35 U.S.C. 103(a) as being unpatentable over Levandovsky (U.S. Patent no. 7,095,956) hereinafter “Levandovsky” in view of Bergano et al. (U.S. Patent no. 6,317,238) hereinafter “Bergano”.

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Claims 31 and 37 have been cancelled.

The Examiner has admitted that Levandovsky does not teach approximating each identified optical effect as a function of each identified base variable. The Office Action alleges that Bergano teaches "approximating each identified optical effect as a function of each identified base variable". According to the Examiner, this can be found in Figure 4 of Bergano which teaches dispersion as a function of the length of a span.

As noted above, the approximating step of claim has been amended as follows:

approximating a value for the impact of each identified optical effect on the performance of a signal as a function of each identified base variable

The language in claim 1 has been amended to clarify that it is not the identified optical effect that is approximated but rather the impact of the optical effect on the performance of a signal that is being approximated. In other words, the present application is not concerned with approximating a measurement of an optical effect (*i.e.* the dispersion measurement of ps/nm disclosed in Bergano). The method of the applicant approximates a performance metric affecting signal quality, such as OSNR, BER, or Q (see pg. 13-14), due to the identified optical effect.

Applicant directs the Examiner's attention to the fact that in Figure 4 of Bergano, dispersion is shown in units of "ps/nm" and that Figure 4 does not disclose the effect on actual performance based on length, only the amount of the dispersion. More specifically, a measurement of dispersion in ps/nm is not an approximation on the effect of a performance value of a signal. There is no disclosure in Bergano (or Levandovsky) of approximating a value for the impact of the distortion effect as a function of span length on the performance of a signal.

While Levandovsky does calculate SNR, this calculation is not dependent on a base variable such as type of fiber, span length, the number of wavelengths, or the power level input into the span. Therefore, neither Levandovsky nor Bergano disclose approximating the impact of each identified optical effect on signal performance as a function of a base variable.

Applicant therefore submits that Levandovsky and Bergano do not include all of the

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limitations of claim 1, either alone or in combination. The Examiner has failed to satisfy the first criterion for establishing a *prima facie* case of obviousness, namely that the references when combined teach all of the claimed limitations.

Since claims 2-23 depend from claim 1, Applicant submits that these claims are patentable as well.

As noted above, claims 24, 26, 28, 34, 35 and 36 have been amended in a similar manner to that of claim 1. Therefore, claims 24, 26, 28, 34, 35 and 36 and all the claims which depend thereon, are also patentable.

In summary, as the Examiner has failed to satisfy the necessary criteria for establishing a *prima facie* case of obviousness with respect to claims 1-24, 26, 28, 32 and 34-36, Applicant submits that claims 1-24, 26, 28, 32 and 34-36 patentably distinguish over Levandovsky and Bergano. It is respectfully submitted that the Examiner reconsider and withdraw the obviousness rejection of claims 1-24, 26, 28, 32 and 34-36.

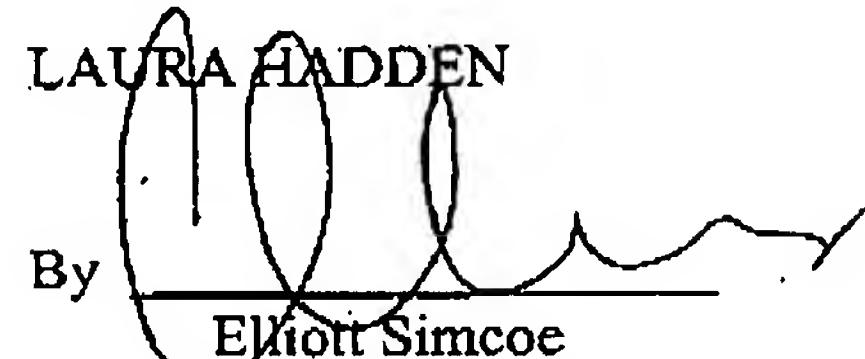
The Examiner has rejected claim 25 under 35 U.S.C. 103(a) as being unpatentable over Levandovsky in view of Bergano in view of Chiniwala et al. (U.S. patent No. 6,175,622). Claim 25 depends from independent claim 24. However, Chiniwala et al. does not remedy the deficiencies of Levandovsky and Bergano with regard to the limitation mentioned above in independent claim 24, and therefore Applicant therefore requests that the Examiner withdraw the obviousness objection to claim 25 as well.

The Examiner has rejected claims 27, 29, 30, 32 and 33 under 35 U.S.C. 103(a) as being unpatentable over Levandovsky in view of Bergano in view of Beine et al. (U.S. Patent no. 6,701,087). Claims 27, 29, 30, 32 and 33 depend from independent claims already dealt with above. However, Beine et al. does not remedy the deficiencies of Levandovsky and Bergano with regard to the limitation mentioned above in independent claims 1, 24, 26, 28, 34, 35 and 36, and therefore Applicant therefore requests that the Examiner withdraw the obviousness objection to claims 27, 29, 30, 32 and 33 as well.

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In view of the forgoing, early favourable consideration of this application is earnestly solicited.

Respectfully submitted,

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